

Orientation and Mobility

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ORIENTATION AND MOBILITY INSTRUCTION

In The Residential School

and

In The State Agency

FINAL REPORT

Vocational Rehabilitation Administration

Project RD-1641-D67-C2

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CHAPTER I

The Initial Planning

For many years seniors at the Tennessee School for the Blind and clients of the Tennessee Rehabilitation for the Blind were confronted with going to an out-of-state rehabilitation center prior to receiving any vocational training. This was also a pre-requisite before a student could continue his academic endeavors in an institution of advanced education.

Metropolitan Nashville has a population of 450,000. Applying the estimated rate of blindness to this population gives a total of approximately 1,100 legally blind persons residing in Metropolitan Nashville. Of these approximately 600 persons are either over 65 years of age or under 16 years of age; therefore, there are approximately 500 blind adults who are within the range generally considered as the average span of working years. Within the state of Tennessee, there was no trained mobility instructor, as such, and the large majority of these people never could attend an out-of-state rehabilitation center. Many of these people were quite limited in their ability to travel and were in need of mobility training. It was anticipated that a mobility instructor working within the framework of the state rehabilitation agency and the school for the blind could provide these persons with mobility training which they were being denied.

The state school for the blind is located in Nashville. There were 217 students enrolled in the school with 98 of these students 9 years of age and older and who had no useful travel vision. There had been no adequately trained mobility instructor available, therefore graduating or terminating students had been insufficiently trained in the area of orientation and mobility. The need to arrange for mobility training during school and after completion of academic work had been frustrating for students, teachers and rehabilitation counselors and had resulted in either lack of such training or delay in other rehabilitation planning.

Preliminary Explorations:

A group comprised of Eugene J. Wood, Superintendent of the Tennessee School for the Blind, James W. Mann, Psychologist of the Tennessee Rehabilitation for the Blind and Samuel C. Ashcroft, Director of George Peabody College's Department of Special Education, reviewed the literature and the validity of an intensive program was evident.

In the opinion of blind people themselves, two problems to be resolved remain the most enduring and most difficult: the inability to move about on one's own and the ability to obtain suitable employment.¹ The simple ability to get about plays a key role in the general adjustment of a blind person.²

Berthold Lowenfeld had defined three basis limitation which blindness imposes upon the individual. These are: (1) in the range and variety of experiences (2) In the ability to get about, and (3) in the control of the environment and the self in relation to it.³

The prime problem of the blind is independent movement. His economic problem hinges upon this independent movement.⁴ Traveling with a minimal amount of assistance, the ability to function physically within the vocational situation and the meeting of the physical and social demands of daily living are important aspects within the vocational setting.⁵ Strictly from an economic viewpoint, educators and workers for the blind have been forced to realize that without the ability to move freely and independently in the home, office, neighborhood or community, blind people cannot be employed. Much time and effort, in addition to the financial expense, have been expended in training the blind

when they could only sit in rocking chair and talk fluently on almost any subject.⁶ Independence in travel is considered by rehabilitation experts, many of whom are blind themselves, to be one of the greatest assets to a blind person in regard to the vocational rehabilitation process.⁷

Prior to the project program the experiences and findings of various projects, e.g. Hines Veterans Administration Hospital, St. Paul's Rehabilitation Center, The Industrial Home for the Blind and Valley Forge Hospital were studied. These studies revealed the usefulness of formalized mobility training with validated techniques. In conjunction with this The Tennessee School for the Blind sent two teachers to the Southwest Rehabilitation Center for the Blind to study the orientation and mobility training program at this center. Additional programs in the Southeast were visited and studied.

Although only a small percentage (2%) of the blind are able to use dogs (Finestone 1960) each method has its place and each requires intensive specialized instruction. A project dealing solely with orientation and mobility training for using the long cane should be of value to the vast majority of blind people and to focus on the long cane technique is justified (Abel 1961).

After careful study of the various programs and observation of the Graduate curriculums at Western Michigan University and Boston College, a program with the same type of philosophy was incorporated.

At the onset of the project the training and techniques to be used were beyond the experimental stage. However much of the uncertainties were met with some of the resistance the various programs were encountering. There is no doubt that an experienced instructor can teach most blind persons to travel by himself without a sighted guide.

Establishing a program into a residential school was a new undertaking in many states. However most administrators felt that it was unnecessary for a student to have to wait to become old enough for existing programs.

This need was magnified in the observation of students enrolled at the residential school as well as students who were graduating. The majority of these students were developing dependant roles. Without mobility training they were being deprived in conceptual development and were not engaging in normal activity that is necessary for the overall growth of a child.

Program Planning:

Davidson County is composed of both rural and urban areas. Metropolitan Nashville, the capital city, has a population of 450,000 persons. The county offered all the necessary areas for an adequate training program.

It was decided that the Tennessee School for the Blind should conduct the project and its superintendent to act as the director. Office space was available at the school for the mobility instructor.

The program had its formal start with the hiring of an orientation and mobility specialist in June 1965. It had as its PURPOSE:

1. General
 - a. To Demonstrate the value of systematic teaching of validated skills in mobility to blind persons who have not previously had access to such training.
 - b. To re-emphasize the basic mission of work with the blind, to study further the factors involved in efficient travel without vision, and to

develop more adequate methods of travel which will be made available to the blind people who need them.

2. Specific

- a. To implement the demonstration project by the employment of a fully qualified instructor from one of the two university training courses in mobility.
- b. To implement the demonstration project by practical arrangements for identifying clients having a need for such instruction, bringing instructor and client together in a favorable relationship and allowing sufficient time to achieve a satisfactory result.
- c. To show blind people the possibilities of cultivating maximum capability in getting about without sight, thus helping them to discover and capitalize on latent aptitudes in mobility skill and become as free as possible to come and go through systematic teaching by a competent, trained instructor.
- d. To help blind people through training in mobility skills, become motivated toward more intensive efforts to achieve rehabilitation.
- e. To give key officials who made decisions with respect to programs for blind people, as well as working practitioners functioning in direct personal contact with blind people, a realization of the increased capability which can be achieved through the above mentioned type of instruction.
- f. To help extend the belief that specialized training in mobility skills is an integral part of professional work with the blind.
- g. To add to the growing body of knowledge in the field of such training by interpretation of project results.

Referrals and Eligibility:

Referrals for training were to be made by professional staff members of the Tennessee Rehabilitation for the Blind and by supervisory staff at the school for the blind. Project staff evaluated referrals and selected candidates using four major criteria.

- a. Candidates were legally blind and sufficiently visually impaired that they did not have travel vision. No exact minimum Snellen measurement was used for screening since visual efficiency varies widely among individuals according to length of time blind, motivation to use remaining vision, field restriction, and many other factors.
- b. Candidates had had a current general medical examination to verify that they were physically able to pursue a mobility program. An Audiological report was secured when deemed necessary.
- c. Candidates will show motivation toward the learning of mobility skills and will be assessed as having rehabilitation potential. It was required that they be active clients of Tennessee Rehabilitation for the Blind or Students enrolled at Tennessee School for the Blind. The project social worker was to review all applications and verify motivation level by individual interview if indicated.
- d. No minimum or maximum age limit was set; however, at the Tennessee School for the Blind, preference was given to students who: (1) are to graduate or, (2) are unable to continue academic training.

Personnel:

- Project Director: The Superintendent at the Tennessee School for the Blind acted as director of the project. It was his responsibility to guide the demonstration and act as a liason between the two cooperating agencies.
- Principal Investigator: The Orientation and Mobility Instructor determined which students to teach, introduced the overall program to parents, personnel, instructed students in necessary training, evaluated the demonstration, kept records and made the necessary reports.
- Social Worker: The original proposal called for a social worker. A specific person with this as part of her job was never employed. This became part of the overall function of the mobility instructor and other staff members in the residential school. The State Agency provided the necessary information concerning social history.
- Business Manager: The Business Manager in cooperation with the project director was responsible for financial records and reports.
- Clerical: A secretary was employed on a half-time basis.
- Consultants: The Director of the Special Education Department, George Peabody College was available for consultation.

CHAPTER II

The Program

The Start:

The program began June 1, 1965, with the employment of an Orientation and Mobility Specialist. The first month was spent in conferring with the necessary personnel from the two agencies and in presenting an outline of the proposed program.

The Director of Vocational Rehabilitation Services for the Blind held a meeting of all District Supervisors informing them of the new program and the necessary procedures for referrals. An apparent problem from the beginning was in meeting the needs of clients from the state agency who were not in commuting distance of Nashville. During the initial planning it was decided that the beginning training would take place on the campus of the school for the blind and the agency would be responsible for making the necessary arrangements for clients to get to the school. This requirement held true only for those students who wanted a long range training program to meet all of their orientation and mobility needs. Clients with limited travel goals were visited in their home or business areas and were not always required to come to the campus. The early weeks were also spent in speaking with civic, church, professional and other interested groups concerning the program.

The orientation and mobility program was designed to cover all areas of training. In the case of the residential students this included present as well as projected needs. During the initial planning lesson plans included a unit system. Unit I covered basic skills and any necessary sensory training. This unit was required of all students in the residential school regardless of visual acuity or future plans as to chosen mode of travel. Unit II included the introduction to the long cane and its basic manipulation. All phases of indoor travel were covered and also the introduction to residential travel around the campus. Unit IV included travel in a residential area and semi-business. Unit V covered advanced business travel and travel in a metropolitan city. Unit VI did not consist of structured lesson plans but included meeting specific needs of the student. It did not always come in its numerical order.

In July, 1965, three clients from the Department of Rehabilitation began formal training.

Prior to the students returning for class work at the residential school a week of In-Service training was held with the faculty and staff. Audio-visual aids were used in the introduction and history of the program. Basic skills and the role of the teacher were presented and discussed. Following these meetings a similar program for Houseparents was instigated.

In addition to the In-Service training at the residential school a proposed workshop for counselors and hometeachers was requested. This did not materialize.

The first year of the program (1965) the senior class at the residential school consisted of six students who were in need of Orientation and Mobility. In September three of these students along with the three that had previously begun from vocational rehabilitation comprised the total number in training.

CHAPTER III

Special Aspects of the Program:

A complete history on each student was made prior to his enrolling in the program. The initial evaluation included family background, diagnosis of blindness, school history, psychological, and any previous orientation and mobility training.

Daily progress notes were kept after the course had begun and at the end of each two week period a summation of his progress was made. These reports allowed for an accurate account of the students level of achievement and travel abilities.

A close relationship between the Department of Vocational Rehabilitation and the mobility instructor was necessary in order to arrange the program to meet individual needs. This was not only true for those clients referred by the counselors but also students at the residential school who were also future clients of the agency.

Residential School:

The orientation and mobility program in the residential school was on a volunteer basis. Under the direct supervision of the Superintendent, students received no form of credit for taking the training. However, the students were highly motivated to travel.

The campus was located in an area that only the advanced traveler could leave unassisted and with safety. Until the introduction of the program students that were blind were permitted to leave campus only with someone who could see. As the student entered Unit IV of his training he was given permission to leave campus unaccompanied.

Unit I: As mentioned earlier this unit was composed of any necessary sensory training and basic skills to orientation and mobility. Because the majority of the students enrolled in the school have travel vision this unit was required of all students. This proved especially helpful in the overall day-to-day reinforcement needed by those students who lacked travel vision. This unit is being expanded to include a wide range of experiences for conceptual development for younger children.

Unit II: Introduction of the long cane and basic manipulation of the cane. This instruction was in compliance with present theories taught at the various universities which have a curriculum in orientation and mobility. Unit II also included all phases of indoor travel using a cane.

Unit III: Outdoor travel on the campus and introduction to residential travel. Once the basic manipulation was attained students began to travel in a limited residential area. For those students with the need of extensive rural travel it was started during this unit.

Unit IV: Residential and semi-business areas were the emphasis in this unit. Because many of the students come from rural backgrounds and due to lack of sidewalks many of the lessons are comprised of "country" travel and takes place in residential areas without sidewalks. The location of the school made it necessary for students to be transported into a different area to receive the necessary

experience for this phase of training. During this unit scheduling is somewhat of a problem for the residential student for it necessitates two hour periods. A reduction in lessons per-week to three and supplanting orientation and mobility for physical education in order to arrange the proper schedule was necessary. Parallel traffic, traffic lights, intersections, service stations, public transportation were a part of this unit. In the latter portion student was traveling to and from public businesses independently.

Unit V: Travel in a metropolitan area and soliciting directions and aid, making purchases comprised this unit. The student spent, on an average of 10, one hour lessons in the metropolitan area with the instructor, following which, independent runs using public conveyances, soliciting directions and making purchases was required. After the successful completion of this phase "Drop-Offs" were given to those students who, at the discretion of the instructor, could profit from them.

Unit VI: This unit was devoted entirely to any special needs of the student. Visits were made into the home environment, business or place of employment. The instructor was at the requests of the student's needs.

Follow-up: The summer follow-up program is considered a vital part in the total program. Due to the fact that the state agency made the majority of their referrals during the summer months follow-up was not as extensive as desired.

After a student had completed the program he was placed in active follow-up for one year. During this period the instructor and student stayed in contact by correspondence and questionnaires. If the student had not previously requested a visit into his neighborhood a visit was made. Any form of instruction or special emphasis was made during this visit.

Many times this would include allowing the student to orient the instructor to his immediate environment and discussion of the program with the parents. In some instances it was more of an approach to the parents attitudes and stereotypes than to the orientation and mobility needs of the student. For a better description of the follow-up refer to individual cases and the results.

The Partially Sighted Student:

Those students who have travel vision were required to complete Unit I (Basic Skills). This served a two-fold purpose. (1) evaluation of student's use of vision in connection with travel. (2) reinforcement for students who utilized these techniques from day-to-day.

Prior to the introduction of this program students were "lead" from place to place and much of the development that is considered normal was lacking. The partially seeing as well as the blind students have reinforced the teachings of the program and their relationship between the two groups has improved.

Many times the partially sighted student, who has what is considered travel vision, needs teaching in the areas of basic traffic patterns, traffic light sequences, or the utilization of the remaining senses to better locate landmarks and clues, this type of instruction usually takes place during the evaluation period. After this evaluative period he is required to fulfill several objectives: Travel on public transportation, make purchases, travel in unfamiliar areas etc.

CHAPTER IV

Results of Student Progress

What did the students obtain from the instruction? Did the training have a lasting effect? These were the type questions asked concerning the results of the program. Because of the heterogeneity of the group several different classifications are used. It should also be pointed out that the Department of Vocational Rehabilitation was encouraged to refer as many clients as they could.

At times it was felt that this was not done and the instructor made special calls and reviewed cases in order that some of their clients would receive the service. Those that were referred were considered "problem cases" and in many instances had already been to the regional rehabilitation agency.

Those students who required extensive orientation and mobility training were ranked according to their overall proficiency in their travel. The following is the results of this ranking.

Rating Scale:

1- 5	Excellent Orientation and Mobility Skills
6-10	Above Average
11-15	Average
16-20	Below Average
21-25	No significant progress in learning Orientation and Mobility Skills

Students in Residential Schools

Rank	Boys	Girls
1- 5	4	2
6-10	4	1
11-15	2	3
16-20	0	2
21-25	0	1
	—	—
Totals	10	9

Adults From Vocational Rehabilitation

Rank	Men	Women
1- 5	1	2
6-10	0	0
11-15	2	3
16-20	0	2
21-25	0	2
	—	—
Totals	3	9

The ratings given are for students who have either completed the program or have either been terminated for any of several reasons. Because the program was designed to meet the immediate needs of the residential students in many cases there are students presently enrolled in the course who are either waiting for the necessary maturation for advanced travel or have a schedule conflict. In any case these students have not been included. However, to give as accurate a report as possible the following ranking is the first of the instructor's ratings and includes students who are presently enrolled and are having instruction on the advanced level. Although the validity of these rankings are questionable, experience allows for a fairly accurate projection of a students progress.

Residential Students Presently Enrolled in Training

Rank	Boys	Girls
1- 5	3	0
6-10	2	2
11-15	3	3
16-20	3	2
21-25	0	0
	—	—
Totals	11	7

All students received instruction for approximately fifty minutes with a one-to-one instructor pupil ratio. All beginning students at the residential school were seniors.

For this reason many of the concepts and development that is sometimes associated with blindness had been learned previously and in many instances a minimum amount of instruction was required. Seniors enrolled in the program required an average of 97 individual lessons. The adults required an average of 78 lessons.

The reader should be cautious against drawing any differences in the group either from age or sex. The sample population was too small and there were many uncontrollable variables, especially in the case of the adults.

Individual Student Progress:

For a better understanding of the total program a brief resume of each student is given. To avoid any inaccurate inferences between adults and students, and between the adventitiously and congenital blind the reports will begin with the nineteen students at the residential school and will be followed by the twelve clients from the state agency.

Name: Alice
Age: 17-3
Vision: nil (congenital)
Rating: 1-5

Alice began formal mobility training at the beginning of her senior year, 1967-68. Prior training consisted of basic skills. The initial evaluation showed a great deal of dependency upon parents to meet her travel needs.

It was apparent that she had good use of her remaining senses. Techniques and skills in orientation and mobility were readily accepted and instructional time was minimal. She completed all phases of training with good progress.

Presently she is awaiting the start of college where she has enrolled for the fall semester 1968. She has the necessary skills and ability to meet orientation and mobility needs completely independent.

Name: Alan
Age: 21-6
Vision: nil (adventitious—age 10)
Rating: 1-5

Alan began formal mobility training in his junior year, 1965-66 and continued the following school year 1966-67. Alan was a shy individual who appeared easily influenced by his peers. Prior to training he was accompanied by a sighted guide even within the school environment where it was not necessary.

Introduction to the cane revealed poor hand-foot coordination and the initial sessions required extensive repetition and reinforcement. However, once the necessary confidence was instilled in student improvement in overall travel and as a person was steady with enthusiasm and cooperation.

Alan had an agricultural interest and extensive time was spent on rural travel. At the end of this period he was self-sufficient on the school's farm in taking care of all the feeding requirements of the various animals.

It was apparent that the independence Alan acquired had an affect on his overall personality. What once was a shy, withdrawn and passive individual became an outgoing and active person.

Alan completed all phases of the training program and is presently in his sophomore year at one of the State Universities. His orientation and mobility needs are adequately met independently.

Name: Adam
Age: 18-11
Vision: nil (congenital)
Rating: 1-5

Adam began training during his junior year and continued into his senior year 1966-67. He had developed remaining senses very acutely with outstanding obstacle perception. Adam came from a very overprotective home. Even after the completion of training several letters and justification of student's ability was necessary for the parents to allow him to leave home and travel independently.

Adam progressed rapidly through the training. He was a very logical thinker in his orientation and mobility and maintained good control of his environment.

Upon completion of training and graduation he received vocational training. He is presently employed by a local firm and goes about his daily tasks traveling independently.

Name: Amy
Age: 21-11
Vision: Light perception-bilateral.
adventitious—age 12
Rating: 1-5

Amy began training in her senior year 1965-66. At first the use of a blindfold was incorporated. Although she had had visual problems since the age of 12 her present acuity had happened rather sudden and she was still having adjustment problems. Her navigation relied, to a large degree, upon a sighted guide.

Once Amy began to have confidence in herself and the training she had no major problems with it. There were some minor problems with traffic and its utilization but through repetition and reinforcement problems were overcome.

Upon completion of training a discussion of her progress with other teachers and staff members produced a consensus of opinion that orientation and mobility had not only opened avenues of travel but presented other advantages that this particular student thought were not possible for a blind person.

Amy is presently employed in a large complex that involves a great deal of travel. The follow-up indicates that she has continued to travel independently and meets her mobility needs.

Name: Alvin
Age: 19-10
Vision: nil (congenital)
Rating: 1-5

Alvin began training in his junior year 1966-67. He had used an orthopedic cane for sometime and the initial sessions were more of a re-learning process. His conceptual development was below average for someone his age. This lack required extensive orientation during the early phases. He would try to travel through memorization, a method he had used previously. As training progressed he began to rely more on clues, landmarks, etc.

At the termination of training student had become a proficient traveler. He graduated in June, 1968, and is awaiting entrance into one of the state universities. His progress should not be hampered by the lack of orientation and mobility.

Name: Arther
Age: 20
Vision: nil (congenital)
Rating: 6-10

Arther started training in his senior year 1966-67. He was a student with a great deal of intestinal fortitude and he took pride in his ability to travel without any aid. This travel was only on campus and to a mobility instructor left a great deal to be desired.

He entered training with some skepticism. He progressed through all phases of training with only minor problems. One characteristic that would lead to disorientation was his over reaction to a situation prior to thinking about it. However, his overall travel was satisfactory.

Upon graduation he entered college and after a short period married and dropped out. Presently he is employed and the follow-up indicated his day-to-day navigation is independent.

Name: Anita
Age: 18-30
Vision: nil (congenital)
Rating: 6-10

Anita began training in her senior year 1967-68. Previous orientation and mobility included basic skills.

Although no great problems were encountered by this student, repetition was necessary throughout the training. After the completion of metropolitan travel she still did not travel in unfamiliar areas well. However, her overall travel ability was considered above average.

Anita graduated in June 1968. Her plans for the future are indefinite.

Name: David
Age: 19-4
Vision: nil (congenital)
Rating: 6-10

David began formal mobility training in his sophomore year 1966-67. He was given priority over some of the other students because of advanced chronological age and his apparent need.

Student entered training enthusiastically. This attitude was partially due to an older brother, who is also blind, and is completely dependent upon sighted help. David had what appeared to be an uncontrollable tremor in the hands and arms and it acted as a detrimental factor in basic skills as well as proper manipulation of the cane. A neurological examination indicated no underlying factors.

His gait and posture were characterized by fear and presented a picture of bouncing, not allowing the heel of the foot to touch when walking. This gait also hindered overall projection causing excessive veering. Various approaches to these problems and some modifications of the techniques were made. David's patience was never tiring and his techniques were satisfactory.

After one hundred twenty-five individual lessons student completed training. Although the finer more polished aspects of cane travel are lacking the end results are the same. Student can successfully travel in all phases of residential, small business and metropolitan areas with a minimum amount of assistance.

He will be a senior at the Tennessee School for the Blind for the school year 1968-69. At this time he will continue to make independent runs periodically as part of his follow-up.

Name: Daniel
Age: 14-5
Vision: nil (congenital)
Rating: 6-10

Daniel lives within walking distance of the school and for this reason he was given priority to other students. He began training during the summer between the eighth and ninth grade 1966-67. In addition to his loss of sight he has a severe hearing loss between the 2000 to 4000 frequency range.

Because his travel to and from school entailed crossing busy streets and several other aspects of advanced training he received basic skills and Unit II,

III, and portions of Unit IV. His hearing loss necessitated extensive exposure to traffic and its utilization.

As the termination he could successfully travel in a small business and residential area. He now walks to and from school frequently.

Name: Dean
Age: 19-8
Vision: light perception (adventitious—age 18)
after surgery 20/100 right eye.
Rating: 6-10

Dean began training in his junior year 1966-67. During early phases a blind-fold was used. He had had no previous training although he did have an orthopedic cane he used occasionally.

Problems in manipulation of cane were minor. His overall progress was good with the exception of expecting things too fast. If progress was not readily, he had a tendency to have a negative attitude about himself.

After student had completed travel in a small business area he had eye surgery. Dean returned to school with sufficient travel vision and training was no longer necessary.

This experience gave the instructor a good opportunity to review many of the lesson plans, especially in the area of conceptual development, that the student completed without sight and then return and review same situation with sight.

Dean commuted to school each day using public transportation after the eye surgery. Although he uses no cane, he has said on many occasions that he still practices the use of many of the techniques. He also feel that he has much more confidence in the other senses after receiving training.

He will enter a private college in the Fall.

Name: Derch
Age: 18-8
Vision: light perception, right eye (adventitious—age 16)
Rating: 6-10

Derch transferred from a public school to the residential school because of a progressive eye loss. At the beginning of his junior year 1965-66 he had no usable vision. Upon entering the new school he was quite fearful of traveling and became depressed and despondent.

Early training consisted mostly of orientation, progressing slowly into cane travel. Comprehension and utilization of techniques were good. At times he appeared to take the defeatist attitude when faced with failure.

Derch was dismissed from school and referred to the Regional Rehabilitation Center. He had completed residential and small business travel when he left the school. His travel progress had been good.

Presently he is playing in a local band. He did not finish high school.

Name: Dawn
Age: 34-11
Vision: 4/200 right, 10/200 left
Rating: 11-15

Dawn came to the mobility department asking for assistance. She had just completed an adult education course and was visiting the school psychologist at regular intervals. She had spent the past seventeen years as a semi-invalid. Her mode of locomotion was with a walker. Physical examinations revealed no abnormalities. A program designed to give her the necessary confidence to walk without the walker was instigated. This device was being used as a support and as a protection against obstacles in the environment. After twenty-two sessions Dawn was able to leave the walker and move about the school unassisted. It was decided after evaluation that this student would not need a cane.

The following months consisted of an orientation process, containing a large part of those things she had missed during her years of stagnation.

Presently Dawn is in her junior year, living in an apartment off-campus and independent in all her mobility needs.

Name: Deborah
Age: 19-11
Vision: nil (congenital)
Rating: 11-15

Deborah began training in her senior year 1965-66. Early phases were more of a relearning process and new techniques had to supplant some of the awkward and inadequate methods she had adopted over the years. In the process of building confidence, there were signs of extreme tension and her reactions were characterized by the lack of thought.

Introduction and manipulation of cane was satisfactory. However, student's overt behavior had signs of pre-occupation causing many of her mobility actions to be physical and not accompanied by the necessary thought processes.

Deborah began training with a very awkward gait characterized by improper posture. Stemming from fear, these characteristics are no longer present.

At the completion of training Deborah had problems orienting to unfamiliar areas. Motivation was low and an over-dependence of sighted help was evident. Student had the necessary skills and ability and when required could travel successfully but her lack of motivations increased her dependence.

Presently she is enrolled in one of the state universities.

Name: Dianne
Age: 17
Vision: Count Fingers (adventitious—age 9)
Rating: 11-15

Dianne began training in her senior year 1965-66. A shy individual she began with the use of a blindfold. Dianne identified greatly with a sighted sister. Her sister tried to foster an attitude of "acting sighted". For this reason the skills and techniques met with resistance. Her acceptance of the cane as an aid to travel was good, but the identification it gave her as a blind person was not fully accepted. She tried to utilize her remaining vision to a greater degree than was possible.

Her comprehension and utilization of cane and techniques throughout the program was satisfactory.

An attractive girl, she frequently attended social functions with her sister and sighted peers. In these situations any identification with blindness was avoided.

At the completion of the training Dianne was convinced of the usefulness of the training and readily admitted she was a much better traveler when using a cane. However, her concern for herself being identified as a blind person was greater than her traveling needs.

She presently is enrolled in a state university where her travel is awkward and she is readily recognized as a blind person. On occasions she will still use the cane especially when traveling across town or going shopping alone.

Name: Donald
Age: 20-4
Vision: nil (congenital)
Rating: 11-15

Donald started mobility training during his senior year 1965-66. At the age of 20 he had developed many characteristics which had to be relearned in order to get maximum benefit from the training. Position of head was down and hands were directly out in front and a shuffling gait was among these characteristics.

Basic manipulation required extensive repetition. This was characteristic throughout the training. Upon completion Donald could successfully navigate in practically all situations.

Although it may sometimes require extensive orientation, his future vocational, economic and educational endeavors should not be curtailed because of the lack of mobility.

He is presently enrolled in one of the state universities and travels to and from classes as well as throughout the community unassisted.

Name: Henry
Age: 19-1
Vision: light perception, right eye (congenital)
Rating: 11-15

Henry started mobility training in his sophomore year 1966-67. He was given priority to students more advanced in grade because of his chronological age and the fact that he commuted to school.

During the early phases it was evident that Henry had lived in a somewhat over-protective atmosphere. He always wanted feedback and only looked at good points many times ignoring areas that needed the most attention. His reinforcement of skills and techniques outside the regular class was almost nil. A great deal of time was spent in his home environment and he could satisfactorily negotiate the terrain. However, during the summer between his sophomore and junior year he did not once move away from his house unassisted. He was not encouraged by his parents to be independent in his mobility.

At the continuation of training in his junior year he was ready for business area travel. During the entire course he attempted to use what he felt was dependable vision in the right eye even though this did not exist. Complete acceptance or displacement of confidence in the cane was not in evidence. As a result of trying to use his right eye he developed a slight twist of the upper torso to the left which caused him to constantly favor and veer to the left. He was informed of this deficiency and efforts were made to correct it by the instructor but the condition was never overcome.

Because of a multiplicity of problems Henry did not complete the entire sequence of training. It is the opinion of the instructor that the potential to do so is present but the lack of motivation and parental encouragement has caused him to reach a plateau with his progress. Training was discontinued in the second semester of his junior year with the idea of resuming after counseling and discussing with the various persons concerned. He has completed all areas with the exception of business and metropolitan travel and has done so in a satisfactory manner.

Name: Helena
Age: 20-11
Vision: nil (congenital)
Rating: 16-20

Helena began training during the summer prior to her senior year 1967-68. It had been recommended to her Vocational Rehabilitation Counselor that because of a conflicting schedule it would be to her advantage to start earlier than the beginning of the school year.

Basic skills were of no problem but the manipulation of the cane took many repetitions. Helena was a girl with a low tolerance point and when faced with failure she would allow her anger to control her. For this reason training was

slow and required a somewhat different approach. Her concept formation was poor.

Helena concluded her training after travel in a semi-business area. It was felt by the instructor, after one hundred-thirty-two lessons, that she did not display the necessary emotional stability to cope with extremely congested and unknown areas.

Helena graduated in June 1968. Her plans for the future are undecided.

Name: Heloise
Age: 23
Vision: light perception, left eye (congenital)
Rating: 16-20

Heloise was first approached concerning orientation and mobility during her junior year 1966-67. At this time her daily schedule was so compact that an additional course was not advisable. The same type schedule was presented her senior year and it necessitated class time after the regular school day.

Heloise had some usable light perception but her confidence in the remaining senses was poor. During the initial sessions a blindfold was used. Her gait had developed into one characterized by fear. Underneath the blindfold she became very anxious causing progress to be slow. This anxiety eventually caused the removal of the occluders. Inside travel required extensive orientation. A morbid fear of steps was present. Introduction to the cane was a slow process and her ability to travel a route was limited to memorization. She had been on the campus for fifteen years and was unable to go about many parts of it.

At the termination of the school year and after sixty-seven individual lessons Heloise was ready to travel in a residential area. Although her travel would have limitations she displayed no desire for additional training.

Name: Hope
Age: 18-10
Vision: nil (congenital)
Rating: 21-25

Hope started training at the beginning of her senior year 1965-66. In terms of orientation and mobility, her primary handicap was not blindness but rather the restriction of motor control in her left side caused by Cerebral Palsy. Early phases of instruction consisted mostly of techniques of orientation and concepts related to travel. Her inability to ascend and descend stairs without aid and her spasticity in the left hemisphere produced many modifications. The student was quite passive.

Special emphasis was placed on correct concepts of turns and projection. Most of the first months was spent on basic skills. A can was introduced with hopes of getting the trainee as independent as possible. Hand-foot coordination was

extremely poor and the correct positioning of the hand and arm was never attained. After many repetitions little or no success was noticeable.

Throughout the year, coordination, concepts, projection, posture and gait were the main emphasis. After ninety-three individual lessons she remained very dependent and did not utilize what techniques she had learned to any large degree.

Intellectually she functions in an above average range of intelligence but her care of daily activities and orientation and mobility have restricted her progress in the academic world.

Clients from Department of Vocational Rehabilitation

Name: Hazel
Age: 19-3
Vision: nil (congenital)
Rating: 1-5

Hazel began mobility training immediately after graduation from a residential school in another state. Her previous training included the use of a cane and a limited amount of experience. Her progress was steady with no complications. All phases of travel were introduced and completed. After completion she entered school to study medical transcription. Follow-up indicates she continues to use the skills and techniques and is independent in the area of orientation and mobility.

Name: Harold
Age: 53-6
Vision: nil (adventitious—age 49)
Rating: 1-5

Harold began training as a must from his vocational counselor. He entered his classes somewhat skeptic. His greatest concern was obtaining employment. The weeks that followed showed a change in his overall attitude. His training progressed at an even rate. Lack of confidence was his biggest problem.

After the completion, Harold, who lives in Nashville, could go any place in the city he so desired. He was quite proud of his accomplishments.

Follow-up reveals that Harold received permanent employment, as a vending stand operator, two years after the completion of his training. He is somewhat reluctant to travel alone in unfamiliar areas. This is due in part because of the lack of motivation that has occurred between employment with the lapse of time and termination of training. However, he does have the necessary skills and techniques to travel unassisted.

Name: Helen
Age: 28-6
Vision: light perception (congenital defect present acuity for past five years)
Rating: 1-5

Helen began training with a very enthusiastic attitude. Her travel to this point was with the use of a sighted guide and by means of self-taught skills with a cane not designed for independent travel.

Early training was with the use of a blindfold. During the initial stages there appeared to be some resentment toward the cane. Mainly because of identification. Helen thought of herself as being sighted. After several weeks of training, there appeared a complete and positive change not only in her travel but attitudes and personality. Where at one time she showed signs of resentment she now accepts training and the cane readily and utilizes skills and techniques.

After completion of small business areas, the incorporation of remaining vision in the travel was practiced. She continued to utilize remaining senses and her sight was a definite asset.

Helen's biggest problem was convincing parents that she should travel unassisted. At times this required insistence on her part. She is presently employed and meeting her mobility needs independently.

Name: Hedda
Age: 39-3
Vision: light perception (adventitious—age 37)
Rating: 11-15

Hedda began training as a step toward employment. Prior to her blindness she had given financial assistance to the family budget.

Early training required extensive repetitions in the proper use of the cane and in orientation processes. Most areas required extensive familiarization. As the program progressed into advanced travel, she gained more confidence and was able to convert the perception of remaining senses into mobility aids.

There were no major problems in Hedda's training. After completion of training she entered a vocational training program.

Name: Jane
Age: 52-7
Vision: nil (adventitious—age 32)
Rating: 11-15

Jane began training as a result of employment demands. Being well-motivated her only obstacle was the breaking of old habits and techniques and the learning of new ones.

At the completion of Unit IV training was terminated at her own request. Presently she is employed and is independent in most of her mobility needs.

Name: Harry
Age: 49-11
Vision: nil (adventitious—age 45)
Rating: 11-15

Harry, a well-motivated and enthusiastic individual, requested orientation and mobility in August 1966. He had talked with another person who had received training and was encouraged by this individual. At that time he was not an active client of vocational services and at the termination of training he was removed from the active files.

Harry's early training was characterized by frequent disorientation. He displayed poor use of clues as well as poor memory. Although he appeared to be relaxed and attentive he did not adhere to verbal instructions readily. In residential areas, his travel showed some improvement. Throughout the training Harry would have to repeat a particular run several times until he could satisfactorily travel it.

At the conclusion and during follow-up thorough orientation was necessary before satisfactory travel was possible. He did travel with a great deal of confidence and his patience was never tiring. It has been these assets that have made orientation and mobility a successful endeavor for Harry.

Name: Hugo
Age: 16-5
Vision: nil (congenital)
Rating: 11-15

Hugo was a student enrolled in the public school program and recommended by his vocational counselor. In the beginning phases Hugo displayed poor conceptual development and an awkward gait and posture. His walk was characterized by extreme fear. Basic independent skills without an aid showed that he was unsure of himself and very anxious. He had many mannerisms indicative of his anxiety. Mistakes were rationalized and usually done by talking to himself.

Introduction to the cane created problems in hand-foot coordination. He ignored tactical stimulus perceived by the cane and relied solely upon stimulus perceived by the feet.

Progress was slow and all independent travel was completely new. Lack of concepts was attributed to the over-protectiveness of the parents. Intellectually (verbally) he functions in a very superior range. He could verbalize

very well but when asked to negotiate kinesthetically within his environment a great deal of anxiety and defense mechanisms were put forth.

At the end of the Summer 1966, Hugo had completed small business travel and could negotiate in and around his school. He was encouraged to do so.

During the summer of 1967 training was continued. A great deal of regression had taken place. Lack of confidence was prevalent. Hugo had had no day-to-day reinforcement and many of his previous habits were again present. Several weeks were spent in review and trying to instill the necessary confidence to travel. At the completion of summer training Hugo could satisfactorily travel to and from the city of Nashville, use public transportation, and travel satisfactory. Time was spent in his neighborhood incorporating the travel to his particular needs. The importance of letting him travel independently was stressed with his parents.

Follow-up indicates that Hugo is still rather dependent with his parents fulfilling most of his travel needs. He is presently awaiting the Fall semester in a local college.

Name:	Jack
Age:	52-11
Vision:	nil (adventitious—age 51)
Rating:	11-15

Jack entered training after having completed an adjustment period at the Regional Rehabilitation Agency. His orientation and mobility was insufficient. Previous training had been hindered by a personality and emotional problem.

Early training was more of a re-learning process. This caused somewhat of a conflict with student and on many occasions required repetitions. His attitude was somewhat dogmatic.

Travel in residential, business and metropolitan areas using public conveyances was presented. Although somewhat dependent; he does have the capability of independent travel. His largest problem is relying more on previous visual image and not using immediate sensory data.

Presently he can travel to meet his daily needs. A very active man prior to his blindness, employment is utmost. The idleness caused by his blindness has made great demands on his personality and well being.

Presently Jack's problems are not in orientation and mobility but more of a psychological nature. He is under the guidance of a psychologist.

Name:	Janet
Age:	68-2
Vision:	Moving objects (adventitious—age 67)
Rating:	16-20

Janet was referred for limited training by the home-teacher. Janet lived in a self-contained apartment complex. Her desires to travel included the immediate surroundings. Because of the accessibility of the environment she felt she would not need to travel beyond this scope.

With the use of a blindfold, basic skills were completed. Travel with a cane was introduced and some modifications were made because of age.

At the conclusion, Janet was traveling independently around her environment.

Name: Jill
Age: 23-11
Vision: nil (congenital)
Rating: 16-20

Jill was referred by her counselor. Basic skills were more of a re-learning process. Supplanting new skills for old ones took many repetitions and constant reinforcement. Her movements i.e. gait and manner of walking were awkward, causing considerable problems in mental orientation and projection. Although she tried extremely hard and had a positive attitude her conceptual development and confidence was extremely low.

As Jill progressed from one phase into another, confidence was gained but her lack of concepts and logical reasoning remained a detriment. After the completion of Unit IV, training was oriented to special needs. Travel in a metropolitan area was not considered feasible. Most of the runs in her immediate environment were traveled with satisfactory results. She was also able to do shopping and visit beauty parlor, etc. unassisted.

Presently Jill is a housewife and her travel is confined mostly to her immediate home and community environment.

Name: Joan
Age: 22-4
Vision: nil (congenital)
Rating: 21-25

Joan was referred to training against her wishes. She had spent considerable time at the Regional Rehabilitation Agency and had received orientation and mobility training. The initial interview was indicative of this students overall attitude throughout training. During this interview a great deal of hostility and emotional instability was present.

The first several sessions were spent in trying to establish a good rapport. It was evident during this period that a great many inadequacies other than mobility were present. Because of the emotional aspect, classes sometimes were short and were not always in direct connection with mobility.

Joan's biggest lack was conceptual development. Because of this void she became disoriented easily.

After the completion of forty-three lessons arrangements were made for a Psychological Evaluation. It was of the instructors opinion that psychiatric counseling was necessary before any type of training program could be successful.

Before this evaluation could be completed, the Rehabilitation Counselor removed her from training (without prior consultation) and placement into a sheltered workshop was made. Presently she remains in this workshop completely dependent upon sighted friends for her orientation and mobility.

Name:	James
Age:	43-9
Vision:	nil (adventitious—age 36)
Rating:	21-25

James began training with enthusiasm. He was preparing himself to take the Bar Examination and his biggest lack was his in ability to move about fully.

Basic skills were characterized by extreme amount of staggering and the lack of balance. This was due in part to the large amount of medication he was taking as prescribed for anti-depressant, headaches, and relaxation.

His class attendance was marred with sickness, absenteeism and excuses of various nature. Retention from day-to-day was low. A short term memory made it difficult to conceptualize his environment.

After twenty-five lessons progress included introduction to the touch technique with the long cane. At this point training was terminated because of illness. Shortly thereafter James incurred a serious illness and died.

CHAPTER V

Related Research

During the past three years several points have been of interest to the Mobility Instructor. Some of these points have been researched to a certain degree. The writer is aware that the results reported are not pure research and many desirable facets were left uncontrollable. Because these pursuits were done during the research and demonstration period they are reported.

In reporting these projects only the objective or hypothesis, the Methodology and results will be given. Review of the literature, the importance of the study, and definition of terms are withheld. Should the reader desire additional information it can be obtained by contacting the principal investigator or project director.

PROJECT I

Evaluation of the Stability of the Self-Concept of Blind Adolescent Girls after Introduction to the Long Cane:

The foregoing is a brief resume of the study of the effect of the long cane on the self-concept of the blind adolescent girl. The empirical knowledge of this effect is unknown, although there have been research projects devoted to the self-concept, but none (that are published) dealing with the effect of training such as mobility on the self-concept. The investigator has tried to stay away from analysis of the blind girls self-concept, and/or how it compares with sighted girls of the same age. Instead the problem was to measure the stability of the self-concept after introduction of a variable (long cane).

The type of research used was evaluation and survey.

I. Groups Used:

The initial group consisted of nine (9) girls who were attending the Oregon School for the Blind during the summer of 1964 for mobility training. The second group consisted of twelve (12) girls who had had a sequential type instruction from a qualified mobility instructor. The third group consisted of eight (8) girls enrolled at the Tennessee School for the Blind. All groups were between the ages of thirteen and nineteen, average intelligence, and no observable handicap other than blindness.

II. Methods Used:

With the first and third groups, two days were spent in small number, five students, establishing rapport with the girls.

Prior to any formal mobility training each individual was tested with the Brownfain Scale.

The material was presented to the subjects with an upper and lower limits.

The students ranked themselves according to these limits. The same material was given at two different times intervals to obtain the realistic private self-concept. The test was given verbally; as the tester read the question, a braille copy was available for the subject to read also. The answers were recorded on a braille writer.

Follow the initial test ,four weeks were spent teaching these girls orientation and mobility with the long cane. At the end of this time, they were tested again with the Brownfain Scale to determine the stability of the self-concept after introduction to the long cane. After tests had been administered, a brief discussion on evaluation of the cane and techniques was held.

The second group of students consisted of those being taught by mobility specialists who had graduated from one of the colleges offering a course in orientation and mobility. A questionnaire, composed by the principal investigator, was sent to twenty-six girls. The questions had a high correlation with those on the Brownfain Scale. The questionnaire and other pertinent material were in braille to allow for confidential answers by the student.

GENERAL INSTRUCTIONS FOR SELF RATING

We want to find out what kind of person YOU REALLY THINK YOU ARE. We are therefore asking you to evaluate yourself on the various personality traits which make up the SELF RATING INVENTORY. Since YOU will be rating YOURSELF, it will be necessary to observe the following instructions carefully in order to achieve the greatest degree of objectivity.

SCALE VALUE

- 8 About at the top among the people you compare yourself to in the trait being considered
- 7 High but not at the top
- 6 Distinctly above average but not outstanding
- 5 Slightly above average
- 4 Slightly below average
- 3 Below average but not outstandingly so
- 2 Distinctly low in the particular tra trait
- 1 About at the bottom among the people you compare yourself to in the trait being considered

1. You are to rate yourself on each of the inventory according to the 8-point scale depicted on the left. "1" is the low or least desirable point on the scale, and "8" is the high or most desirable point.

In evaluating your position on the scale in any trait, compare yourself to the group of people you think of yourself as belonging to or identifying with. This does not mean a formal group, but a psychological group—the people in your profession. In other words, compare yourself to the people you generally think about when you evaluate yourself.

2. Take care to avoid the "halo" error in evaluating yourself. Use a fresh approach on each item. Your rating on one trait should not influence your rating on other traits. There is no reason why you might not see yourself low on some items, high on others, and inbetween on still others. People, after all, rarely stand uniformly high or low in all qualities.

3. Read and understand each inventory definition not in terms of some vague generalization, but in terms of specific incidents and behavior which will justify the rating you give yourself.

You will rate yourself on the inventory several times, each time following the different instructions on the rating blanks. It is essential that you make each set of ratings independently of the others. Therefore, after you have completed one set of ratings, fold back the sheet and DO NOT REFER to it again when you make your later ratings.

SELF RATING INVENTORY

Every individual has a picture of himself, or a self-concept. This inventory consists of 20 traits which all people possess to a greater or lesser extent. These traits are used by individuals in order to paint this picture of themselves, or form a self-concept. Only the extremes of each trait are defined. The low end, "1", describes in approximate terms the people who stand lowest on a particular trait, while the high end, "8", describes the people who stand highest on the trait. As a convenience the masculine pronoun is used to refer to both sexes.

LOW END (1) — versus — HIGH END (8)

1. INTELLIGENCE

Is among the least bright in the group he sees himself belonging to. Is not especially quick or alert in grasping ideas and situations.

Is among the most brilliant in the group. Is alert, quick, and imaginative in comprehending complex ideas and situations.

2. EMOTIONAL MATURITY

In many ways "childish" and seems younger than actual age. Simply is not "grown-up". Is among the least mature in the group.

Is grown up and mature emotionally. Behavior impresses as being extremely adult in the group.

3. SOCIAL POISE

Is inclined to be awkward and clumsy in social situations; seems embarrassed or shy in meeting and associating with people.

Acts skillfully and gracefully in social situations; is confident and adaptable in meeting and associating with people.

4. PHYSICAL ATTRACTIVENESS

Is among those in the group who are physically most homely or plain-looking.

Is among the physically most attractive in the group.

5. GENEROSITY

Inclined to be selfish with money and possessions; not helpful to others; self-centered and thinks of self first.

Gives generously of possessions and money; wants to help other people; usually thinks first of the welfare of others.

6. CHEERFULNESS

Tends to be pessimistic and "sour" about life; is something of a "wet blanket" in social groups.

Is unusually cheerful and optimistic about things; tends to spread good spirits in a group.

7. SINCERITY

Is frivolous; you can't tell whether or not he is kidding or means what he says and does.

Is sincere in what he says and does; you can always tell whether he is being serious or has tongue in cheek.

8. INITIATIVE

Is dependent upon others; has trouble making up his mind; seems to need reassurance and support from others.

Is self-reliant; makes up own mind without difficulty; does not lean on others in situations calling for independent action.

9. TRUSTFULNESS

Is suspicious of others and looks for hidden motives; might feel mistreated or disliked without good reason.

Trusts other people without being gullible about it; gives people the benefit of the doubt without looking for hidden motives.

10. FLEXIBILITY

Is among the most "rigid" in the group. Sticks to own ideas and ways of doing things even though they may not be suitable to the situation.

Is among the most flexible in the group. Adapts to the needs of changing situations; accepts compromises and suggestions where needed.

11. SPORTSMANSHIP

Can't take a joke; tends to nurse a grudge; is a poor loser and a poor winner.

Can take a joke and give one; takes victory and defeat gracefully.

12. INDIVIDUALITY

Conforms very closely to what the groups expect, is unusually conservative, cautious, and afraid to be different.

Expresses feelings and opinions readily and freely; is not a rebel or a radical or bohemian but is not afraid to be different.

13. SELF-UNDERSTANDING

Has little awareness of impression he makes upon others; doesn't seem to understand self.

Has good insight into how he impresses other people; understands self unusually well.

14. INTEREST IN OPPOSITE SEX

Talks very little about opposite sex. Does not use opportunities for contact and may avoid association with opposite sex.

Dates a good deal and/or talks a lot about opposite sex. Extremely aware of opposite sex and enjoys being with them.

15. DEPENDABILITY

Is among the least reliable in a number of ways. Might fail to keep promises, appointments, or to return borrowed things. Lacks a sense of responsibility to others.

Is among the most dependable; can be relied upon to meet obligations and to fulfill responsibilities to others.

16. UNDERSTANDING OF OTHERS

Tends to be insensitive and blind to the needs and feelings of others; doesn't understand what makes other people "tick".

Is extremely sensitive to the needs and feelings of other people and shows good understanding of their personality.

17. SELF-ACCEPTANCE

Is extremely dissatisfied to be the kind of person he is; wants very much to be a different kind of person; doesn't accept self.

Is generally pleased (but not conceited about being the person he is; accepts self;) feels no need to be like a different person.

18. POPULARITY

Has very few close friends and few acquaintances, tends to be disliked by others.

Has many friends and acquaintances; is among the best liked in the group.

19. STATUS

Is not considered to be an important member of the group; lacks status and is not looked up to by others.

High status among others; is looked up to and in many respects may serve as a model for others in the group.

20. OVERALL ADJUSTMENT

Among those in group least able to get along with environment and people. Might often appear unhappy, moody, overly suspicious, unusually aggressive or otherwise disturbed by personality problems. In general he is maladjusted and unable to achieve real satisfaction in work and play.

Is among those who are most adequate in dealing with environment and in getting along well with people. Generally seems happy and productive and not particularly disturbed by personality problems. Is comparatively well adjusted and able to get real satisfaction out of work and play.

QUESTIONNAIRE

Travel with the long cane is relatively new. Although it has been accepted as the most scientific means of travel, very little has been said by the blind girl as to what she thinks about it. Enclosed is a questionnaire that will give you a chance to express your ideas as to how the cane has affected your personality and attitude. Your cooperation by completing and sending it to the return address will be greatly appreciated.

Due to the personal aspects, it will not be necessary to sign your name on the return answer sheet.

Please read the instructions carefully:

You are to rate yourself on a four point scale as to how you were before introduction to the cane and as you are now, after instructions in travel with the cane. The scale is as follows:

If you rate yourself:

- 4—you are at the top among the group you compare yourself with
- 3—you are above average.
- 2—you are below average.
- 1—you are at the bottom.

In evaluating your position on the scale, compare yourself to the group of people you think of yourself as belonging to.

It will not be necessary to write the questions: On your writer place the words—BEFORE and AFTER—Then under the word before rate yourself according to the scale on each question, then, ask yourself the same question again and answer according to how you are after introduction to the long cane.

Ask yourself each of the following questions and answer how it applied in the past (Before) and then how it applies to the present (After).

1. Inclined to be awkward and clumsy?
2. Shy in meeting and associating with people?
3. Unhappy about life?
4. Self-reliant, do not lean on others?
5. Adapt to the needs of changing situations?
6. Go along with the group?
7. Understand self?
8. Extremely aware of opposite sex and enjoy being with them?
9. Dependable, relied upon by others to meet obligations?
10. Physically attractive?
11. Sensitive to the needs of others?
12. Pleased at being the person I am?
13. Many friends and acquaintances?
14. Looked up too by others?
15. Enjoy getting out into the public?

Remarks.

The results obtained were treated statistically with a normal distribution of scores. A T distribution with a level of significance at 90 per-cent was used. The test of the Hypothesis by the statistical procedures are not given in breakdown form. However, the results of these procedures are presented.

CONCLUSIONS:

From the data obtained in this study, only one trait, dependability of the self-concept showed any significant difference among blind adolescent girls after their introduction to the long cane.

With the Brownfain Scale, there were several small changes in various individuals, such as physical attractiveness. Eight out of the seventeen girls showed an increase in rating themselves according to this trait. Popularity and cheerfulness also had slight increases. But with the point of significance set up prior to the test, none of those traits surpasses the first percentile.

The questionnaire, which had a great mortality rate, had many points of interest, although not pertinent to the problem. Seven of the returns were discarded because the subjects insisted on placing an average (2.5) on the rating scale. As a follow-up, a letter was sent to all individuals not answering the questionnaire to see what was the reason for their not answering. In the majority of the returns of this procedure, there was indication of just a beginning state of travel and were not qualified to answer the questions.

The trait dependability did show significant difference between the before and after results.

In discussion of the long cane with many girls, there seems to be a "delightful" attitude in the sense they did not have to use a sighted guide as much so as prior to training.

Both groups were in a residential setting. Individuals in group one were mostly public school students taking part in a summer workshop. The attitude toward the cane by group three proved the most interesting. Because training had allowed students to leave campus and have independence until now was not thought possible, the cane was considered as a prestige symbol. It was accepted by the overall student body and those students, girls and boys, looked forward to the time when the instructor would give them the cane on a permanent basis. Usually, depending on the individual this was done after student was in residential travel.

The one place that a negative attitude toward the cane was noticed was in a formal situation (banquet, prom, etc.). Here the subjects felt the use of a sighted guide was more adequate.

The group which was tested was an uncontrolled group and many variables could have presented problems in such a short period of time. Processes such as drives, unconscious motivation, repression, and denial could affect the behavior of the subjects. Certainly any changes in these intervening variables would have an effect on the self-concept, which could create a uniquely difficult problem in achieving a valid measurement.

In spite of the shortcomings for this type of test with the blind, the author was forced to use it, since no standardized test for the blind has been designed yet. This points out the necessity of developing a test for use with the blind which would evaluate the effects of blindness of the self-concept.

PROJECT II:

The following project was done in corporation with Dr. James Robinson, Vanderbilt University. Dr. Robinson had previously done extensive research on echo discrimination among mammals. He was engaged in a second research project testing the hypothesis of physical sensory compensation among blind people. A second hypothesis testing whether blind persons listen more carefully or learned sensory compensation was also under study.

In discussions with Dr. Robinson the question was raised "In what way does the auditory behavior of mobile blind people differ from that of immobile blind persons?" Dr. Robinson later extended this to include "unpracticed sighted persons". It was thought that blind listeners might set higher response criteria and therefore achieve percents correct which would have been interpreted as sensitivity equal to that of sighted controls. The objective of one phase of the experiment was to test "Criterion Placement." We wanted to see if the differences in auditory behavior could be explained on the basis of

changes in d's and/or betas derived from a single yes-no auditory signal detection test involving a single tone in noise.

Some blind people have become more efficient at setting their response criteria so as to maximize their gains and minimize their losses (gains in terms of accomplishing their mobility objectives) and losses in terms of being over-cautious or having an accident.

It was Hypothesized that more appropriate learning of auditory criterion placement is learned best by those blind people who face the mobility problems involved in getting around unfamiliar places without sighted assistance, especially those who have had a formal course in mobility.

A listener's d's set the upper limits on his auditory efficiency, but how closely these maxima are approached is determined by where he places his response criteria. For greatest efficiency, the mobile blind person would need to constantly reset his criteria as signal probabilities and the values and costs of the response contingencies changed. He would be expected to set a higher criterion on a lightly traveled street or sidewalk, where the probability of signal occurrence (warning sounds or echoes from obstructions) is lower than on a busy street or badly obstructed sidewalk; and on any given street he would be expected to set a higher criterion when he was in a hurry (false alarms would be expensive) than when he was not in a hurry.

It is not uncommon during the early phases of orientation and mobility training for students to stand at a street for a long period of time before crossing. It is also noted that students make frequent stops along sidewalks and move slowly. This could be interpreted as setting a low response criterion. Later in their training they cross the streets more quickly and move along the sidewalks with more speed and fewer stops, perhaps because they are setting higher response criteria.

METHOD:

Both Experiment 1 and 2 were yes-no auditory signal detection tasks with feedback delivered after each response. Each listener was paid \$1.50 per hour plus a bonus of one half cent per net matrix point. Practice and experimental sessions were two hours long, scheduled on nearly successive days and each contained five one hundred trial blocks.

SUBJECTS:

Four students who were blind, who had completed mobility training at the Tennessee School for the Blind and had a rating of average and above, four blind people who had not had a formal course in mobility worked in this experiment.

APPARATUS:

A signal and a noise generator, a filter, timers, two accenuators, a mixer, and a headset monitor box were arranged to deliver stimuli to a headset inside a sound resistant room. Readings from the headset monitor box were used to set the outputs of the signal and noise generators at the beginning of each session. The signal was a 28 decibel (re .0002 millibars), 900 cps tone. The white noise was at 7.5 decibels (re .0002 millibars), per one cycle band with a bandwidth of 600 cps (lower filter cutoff at 600 cps, upper filter cutoff at 1200 cps). The stimulus interval was 7.2 seconds, divided at follows: (a) filtered noise for

2.2 seconds, with .10 second signal occurring after 1.1 second on a randomly chosen 25, 50 or 75 percent of the trials. (b) response interval of 3.1 seconds, (c) a feedback interval of 0.5 second, (d) a 1.4 second interval during which the tape in the stimulus probability selector moved to the next space. Signal probabilities were determined by three punched tapes that were fed into the stimulus probability selector. Feedback was delivered via wooden dowels, one of which vibrated after a signal was given, the other after a noise.

EXPERIMENTAL DESIGN:

Each listener in each group served in a practice session with optimal beta equal to 1.00, then in three experimental sessions with optimal betas of 0.33, 1.00, or 3.00. The order of the experimental treatments was counterbalanced among the listeners.

PROCEDURE:

Instructions explaining how to use the apparatus and the bonuses were read to the listener at the beginning of the practice session. At the beginning of each experimental session listeners were told only what the probability of signal would be (.25, .50, or .75) for the whole session. At the end of each block the listener had a short rest period during which he was told his percent correct, the number of correct rejections, false alarms, hits, misses, and bonus earned. Listeners were shown the appropriate matrix card from the group shown in Figure 1 at the beginning of each session. The blind listeners used cards embossed in Braille. Instructions explaining the card and the bonuses were played from an audip tape into the sound resistant room.

RESULTS:

Each Subject received 2000 trials from which significant difference in efficiency of criterion placement between the mobile blind and/or nonmobile blind group was noted as predicted by the hypothesis. It was concluded either that blind superiority is not based on differences in d 's or betas, or that this particular experiment was not able to measure those differences.

CHAPTER VI

Conclusions and Recommendations

During the period from June 1965-1968 ninety-four visually handicapped persons have received training in orientation and mobility. Thirty-one of these (reported herein) have received intensive training and evaluation. The remaining number have had evaluations and training specifically to meet their particular needs. In any case they have had basic skills as outlined in previous reporting. Fifteen of the total number have been clients of the Department of Rehabilitation, and the remaining number, (sixteen) were students at the Tennessee School for the Blind.

In addition to the instruction in orientation and mobility. The principal investigator has tried to place this new discipline in its proper prospective both from the Residential and State Agency's viewpoint. This has been done through In-Service training, demonstrations, and discussions. No new discipline is offered without some resistance. This has been minimal at the residential school, and as a result of this project three full-time positions for Orientation and Mobility Instructors have been created. All of these positions have been filled.

A very few clients (3) outside the greater Nashville area have received any training through the Department of Rehabilitation. In discussing this with the Supervisor it was their concensus that the majority of the time be spent with students at the school. Reason being that these students would eventually be their clients. However, this leaves a vast number of blind persons without travel skills. Earlier, a proposed summer enrichment program whereby clients from throughout the state would come to a central point, and receive several services including orientation and mobility, met with rejection. Because the majority of these clients have only self-taught skills or receive training from a home-teacher such a program should be beneficial. Those presently receiving instructions, are by means of a home-teacher which in many cases is blind and offers only his own travel experience as a means of instruction. Another proposed program to familiarize these field-representatives, home-teachers, etc., also met with rejection. There are approximately 376 active cases of the Vocational Rehabilitation Agency who likely would profit from orientation and mobility.

SPECIFIC RESULTS AND RECOMMENDATIONS:

1. Individual ability, determination, and motivation are pre-requisites for the extension of travel. Current training results of persons completing forty or more individual lessons range from an individual who is able to function safely and independently in his own neighborhood to the most highly skilled individual, who, safely, efficiently and independently travels over miles of distance by foot or public transportation in order to locate an entirely unfamiliar objective which he has been asked to locate.
2. The correct role of the classroom teacher and dormitory supervisor in orientation and mobility is essential. In-Service training displayed the various facets of orientation and mobility and the role of the classroom teacher and houseparent. Both have been a vital part in eliminating negative attitudes toward mobility which were present due to previous experiences. The introduction of the basic skills should be initiated by the teacher and followed by the houseparent.

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3. Orientation and Mobility should begin as early as possible. In the residential school it should have its beginning in the first grade. Accompanied by supportive services it should begin as soon as possible with clients from the State Agency.
4. Clients referred by the Department of Vocational Rehabilitation expressed a strong desire to obtain gainful employment. However, in those cases referred it was only after an extended period of time that several did receive employment. As one client said "I am confident I can go anywhere I want to without problems, but without employment I find myself having to look for places to go." Motivation is of prime importance with the adult client. The student had a definite increase in motivation when they had acquired the necessary skills and techniques for travel, and their enthusiasm toward future goals was evident.
5. Daily Instructions over a period of several months is necessary to produce good orientation and mobility.
6. Orientation knowledge should be formulated so that a sequential pattern is included within the regular lesson plans and unit plan structure.
7. In the residential school an elective credit or part thereof, should be given to high school students who complete the course in orientation and mobility.
8. All faculty, staff, counselors, home-teachers and related personnel should have a working knowledge of orientation and mobility. This allows for the day-to-day reinforcements as well as having a better understanding of what is offered and what to expect from the program.
9. Factors of intelligence, practical travel goals as motivational devices, residual vision, client-student responsibilities and parent-family attitudes relate to orientation and mobility success.
10. Academic activities were approached with more enthusiasm and social outlets increased with the inclusion of orientation and mobility training.
11. Idiosyncrasies, sometimes associated with blindness, were significantly reduced as the student began to have better control of his environment.
12. A total program in orientation and mobility must be well developed, designed to fit the immediate, growing and future needs of the individual.

STRUCTURED

- 1 As to the age, maturity and immediate needs.
2. As to the developmental levels of growth.
3. As to meet additional individualized needs.
4. Inclusion of an active follow-up.

RECOMMENDATIONS:

Recommendations would include the carrying out of any of the above conclusions which have not been adequately fulfilled. The residential school will have adequate instructors for their enrollment. One of the difficult points of this project was the fact that when a student became eligible for the program

many of the psychological and physiological effects of the lack of orientation and mobility were instilled in the individual. With the allocation of three permanent positions this should be alleviated. Present plans and recommendations include beginning each student in the third grade and offering a sequential developmental program through his junior year in high school. Phases of the instruction would correspond with maturation and development. Completion of the program would be in the junior year allowing the senior year for active follow-up.

The State Agency could pursue several alternatives to provide adequate training to their clients. The proposed summer program whereby all clients would receive an overall rehabilitation approach at a central location should be beneficial. To provide a more adequate and permanent approach, an orientation and mobility specialist for each of the districts would be ideal, especially in the larger cities, (Nashville, Knoxville, Memphis, Chattanooga). If the district offices are unable to financially add another staff member, a cooperative effort between the public school programs (resource and itinerant) and the local services for the blind would assist in providing the necessary financial arrangement. In any case the present approach by the State Agency is inadequate and the reorganization of services and the approach to these problems need to be re-evaluated.

The objectives and purposes of this project have proven difficult to attain with the services being rendered to such a selective group. It has implied that orientation and mobility is a basic right and need of every blind person and should be offered at a very early age or as soon after the onset of blindness as possible.

The overall success is that this has been a beneficial educational experience for many blind persons. It reinforces the fact that any program for the visually handicapped that does not have orientation and mobility within its curriculum does not have an adequate program or one that meets the total needs of a blind person.

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